

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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COMBINED TACTICAL SYSTEMS, INC.,

Plaintiff,

OPINION

-against-

04 Civ. 8924 (MGC)

DEFENSE TECHNOLOGY CORPORATION  
OF AMERICA, and FEDERAL  
LABORATORIES, INC.,

Defendants.

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CEDARBAUM, J.

Plaintiff Combined Tactical Systems, Inc. sues Defense Technology Corporation of America and Federal Laboratories, Inc. for patent infringement. Because the parties do not agree on the correct construction of certain terms used in the claims of method patent 6,752,086 ("the '086 patent") and object patent 6,755,133 ("the '133 patent"), a hearing was held in accordance with the teaching of Markman v. Westview Instruments, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996).

#### BACKGROUND

Both parties manufacture and sell "less-lethal" munitions. The subject of this case is a projectile formed from a tubular-shaped, "beanbag style" sock containing lead shot that is inserted into a shotgun shell and then launched. The '086 patent is for a method of preparing the low-lethality projectile, and the '133 patent protects the projectile's "flight shape." Both patents are continuations

of plaintiff's 6,202,562 patent ("the '562 patent"), which Judge Cote had previously determined was not infringed by defendants' product. See Combined Sys., Inc. v. Def. Tech. Corp. of Am., 230 F. Supp. 2d. 544, 548-49 (S.D.N.Y. 2002), aff'd, 350 F.3d 1207 (Fed. Cir. 2003).

The parties dispute the meaning of several terms in the '086 and '133 patents, which are discussed below.

#### DISCUSSION

In construing the meaning of a patent claim, "the words of a claim are generally given their ordinary and customary meaning." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotations omitted). The ordinary and customary meaning of a claim term is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Id. at 1313. The ordinary meaning of a term to one skilled in the art may, in some circumstances, be apparent "even to lay judges," and general purpose dictionaries may be helpful in such circumstances. Id. at 1314.

The Phillips Court noted that "[b]ecause claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the

meaning of the same term in other claims.” Id. In addition, “claims must be read in view of the specification, of which they are a part...the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” Id. at 1315 (internal citations and quotations omitted). However, the court also warned that claims should not be limited to the embodiment described in the specification. Id. at 1323.

#### The ‘086 Patent

##### 1. “preliminarily”

Initially, the parties dispute the meaning of the language in claims 1 and 9<sup>1</sup> of the ‘086 patent: “using preliminarily an unfilled tubular sock-like projectile body having a closed front end and a rear edge bounding a rear opening thereinto.” ‘086 patent, 5:5-7. Plaintiff argues that this phrase describes the initial shape of the projectile body, “preliminarily” or “prior to” taking the first step in the patented preparation process. Under plaintiff’s proposed construction, the “projectile body” may have multiple openings at earlier stages in the preparation sequence, as long as a closed front end is formed prior to

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<sup>1</sup> Claim 1 of the ‘086 patent is identical to Claim 9, except that the word “constricting” is replaced by “delineating.” Claims 1 and 9 are the two independent claims in the ‘086 patent.

taking the first enumerated step in plaintiff's patented preparation method, which is filling the sock-like body with shot.

Defendants disagree. They argue that the inclusion of the word "preliminarily" requires "that the method of shaping a low lethality projectile starts with using an unfilled tubular sock-like shape, *i.e.*, a tube shape hollow body having a single inner compartment formed by one closed end opposite one opening formed by a rear edge." Def. Br. at 6.<sup>2</sup> Defendants argue that the claim requires that the projectile body have only one opening at the very beginning of the preparation process, prior to the employment of any steps taken to shape the projectile body, not merely prior to the first enumerated step in plaintiff's patented preparation method.

The plain meaning of "preliminarily" is "at first" or "prior to." In the patent claims, "preliminarily" is used as an adverb which modifies "using," meaning that the claimed preparation process begins by using "an unfilled tubular sock-like projectile body having a closed front end." Therefore, the claim covers all processes which use an "unfilled", "tubular", "sock-like" projectile body prior

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<sup>2</sup> "Plaint. Br." and "Def. Br." refer to plaintiff's and defendants' responsive claim construction briefs. "Plaint. Op. Br." and "Def. Op. Br." refer to the parties' opening claim construction briefs.

to taking the first enumerated step in the preparation process of filling the projectile body with shot.

## 2. "tubular sock-like projectile body"

Defendants argue that "tubular sock-like projectile body" should be given the same construction as another term in the patent, "tubular projectile body," since both terms are used interchangeably in the patent to refer to the same object. Defendants' proposed construction of the phrase is "a tube shape hollow body having a single inner compartment." Def. Br. at 6. Defendants note that both "tubular" and "sock-like" must contribute to the definition of the term, meaning that the body has a single interior shape (like a tube) but is closed on one end (like a sock). Plaintiff argues that the phrase should be construed to mean: "any unfilled tubular fabric construction material having a single chamber of at least one layer of material." Plaintiff. Br. at "Ex. F." Defendants do not object to plaintiff's assertion that nothing in the claim requires that the tube must be composed of only one layer of material. Nor does plaintiff dispute that the tube must have a single inner chamber or compartment. As the proposed

constructions are not in conflict with one another, both may be incorporated into the construction. "Tubular sock-like projectile body" therefore is construed to mean "a tube shape hollow body, composed of one or more layers of material, having a single inner compartment."

### 3. "rear edge"

Defendants argue that "rear edge" means "the edge of the tubular sock-like body [tubular body] in the projectile opposite the closed end that, in the unfilled state, forms the opening into which shot is filled." Def. Op. Br. at 12 (brackets in original). Plaintiff responds that, although it disagrees with the argument that "rear edge" defines a particular rear edge in the final projectile shape, the actual wording of defendants' construction is acceptable. Plaint. Br. at 14. Therefore, defendants' definition is adopted.

### 4. "tail"

The term "tail" first appears in the '086 patent claims in the phrase "constricting said tubular sock-like projectile body forward of said rear opening to close said rear opening thereby forming a tail." '086 patent, 5:9-11. Elsewhere in the claim, the unfilled tubular projectile body

is described as having a "rear edge bounding a rear opening thereinto." '086 patent, 5:7.

Defendants' proposed construction of "tail" is the "tubular body portion of the projectile extending rearward from a constriction/delineation and including the rear edge through which shot is filled." Def. Op. Br. at 13. Plaintiff rejects the requirement that the tail be "extending" and include the "rear edge." Plaintiff's construction is that "a tail of a given length is formed dependent upon the location of where the projectile is constricted." Plaint. Br. at "Ex. F." Plaintiff is correct that nothing in the claim requires that the "tail" of the projectile be of a particular length. However, according to plaintiff, the tail also need not include the rear opening or rear edge, but rather may extend forward from the constriction to include the closed end of the tubular body.

Plaintiff's construction contradicts the ordinary meaning of "tail". A "tail" is ordinarily understood to be located at the "rear" or "end" of an object. The claim language "thereby forming a tail" indicates that the prior step in the preparation process, of constricting the projectile body, creates the tail. Thus, the constriction divides the projectile body into two sections, a front end and a rear end or "tail." The claim also requires that the



constriction be located "forward" of the rear opening and that the constriction serves to close the rear opening, creating a divider between the opening through which the lead shot enters the projectile chamber and the location in which it is housed within the projectile. The rear opening is on one side of the constriction and the lead shot is on the other side. The claim later explains that the portion of the projectile that contains the "lead shot" is the "front end" of the projectile, employing the term "lead shot-filled closed front end." '086 patent, 5:13-14 (emphasis added). If the lead shot-filled section of the projectile is the "front end," it cannot also be the "tail." Rather, the "tail" must be the portion of the projectile body on the other side of the constriction, which includes the rear opening. Therefore, the "tail" is properly construed as the "portion of the projectile extending rearward from a constriction/delineation and including the rear opening, which is bounded by the rear edge."

##### 5. "lead shot-filled closed front end"

The term "lead shot-filled closed front end" first appears in the phrase: "urging in movement said lead shot-filled closed front end of said tubular projectile body fully into said projectile compartment to an extent causing

said tail thereof to contact against said closed 12 gauge shotgun shell end and said lead shot-filled closed front end to expand radially into contact with said 12 gauge shotgun shell cylindrical wall so as to assume said cylindrical shape thereof characterized by a blunt front end." '086 patent, 5:13-20.

Defendants' proposed construction of "lead shot-filled closed front end" is "the closed front end portion of the projectile body forward of the constriction/delineation that is filled with lead shot and has a diameter that is less than the interior diameter of the 12 gauge shotgun shell." Def. Op. Br. at 15. Defendants note that, in order for the projectile body to "expand radially" when it is shoved inside the shell casing as stated in the claim, the "front end" must be narrower than the shell casing.

Plaintiff responds that it is not necessary for the entire "lead shot-filled closed front end" to be narrower than the casing in order for some portion of the front end to "expand radially" inside the shell casing. Plaintiff notes that "claims must be construed so as to be consistent with the specification, of which they are a part." Merck & Co. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed. Cir. 2003); see also Modine Mfg. Co. v. U.S. Int'l Trade Comm'n, 75 F.3d 1545, 1550 (Fed. Cir. 1996) ("[A] claim

interpretation that would exclude the inventor's device is rarely the correct interpretation; such an interpretation requires highly persuasive evidentiary support...."), cert. denied, 518 U.S. 1005, overruled on other grounds, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558, 574 (Fed. Cir. 2000). Plaintiff argues that defendants' construction is incorrect because it would exclude from the claim the preferred embodiment of the invention described in the patent specification, in which the preferred maximum projectile width is 1" and preferred shelling case width is 3/8". '086 patent, 3:55-60.

First, as a matter of physics, the projectile body, including the front end, must be very slightly narrower than the shell casing at the point that the projectile enters the shell casing in order for one to fit inside the other. This does not require, however, that the entire front end be narrower than the casing prior to insertion. Nothing in the claim requires that the entire section of the projectile body forward of the constriction (i.e., the "lead shot-filled closed front end") have a diameter that is less than that of the 12 gauge shotgun shell prior to its insertion into the shell casing. The front end could initially be wider than the casing and could be narrowed at the point where it enters the casing.

Plaintiff is correct that the claim only requires that some portion of the "lead shot-filled closed front end" "expand radially" inside the shell casing. Only the very tip of the closed front end must be narrower than the shotgun shell in order for the closed front end portion to "expand radially" once inside the shell casing. The construction of "lead shot-filled closed front end" that is consistent with the ordinary meaning of the claim language is therefore "the closed front end portion of the projectile body forward of the constriction/delineation that is filled with lead shot, some portion of which has a diameter that is less than the interior diameter of the 12 gauge shotgun shell at the time that the portion is inserted into the shotgun shell."

6. "urging in movement"

Plaintiff argues that "urging in movement" means "stuffing," *Plaint. Br.* at "Ex. F," while defendants construe the phrase to mean "insert[ing] into the projectile compartment in an organized fashion," *Def. Br.* at 8. Defendants note that in the summary of the invention section of the patent, the manner in which the projectile is loaded into the weapon shell is highlighted. '086 patent, 1:60-65 ("More particularly, it is an object [of the present

invention] to impose a low lethality contacting surface of the projectile at impact by the manner in which it is loaded into a weapon shell...."). Defendants argue that plaintiff's proposed construction of "stuffing" the body into the compartment is inconsistent with the invention description and with the preferred embodiment described in the patent.

Plaintiff responds that defendants are attempting to read limitations from plaintiff's prior '562 patent into the '086 patent claims. Plaintiff notes that it may recapture subject matter from the '562 patent that was disclosed in that patent but not claimed, including the more general method for inserting the projectile body into the shotgun shell, which includes, but is not limited to, the folding method of insertion that was claimed in the '562 patent.

See Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., 285 F.3d 1046, 1055 (Fed. Cir. 2002) ("A patentee who inadvertently fails to claim disclosed subject matter, however, is not left without remedy....a patentee can file a separate application claiming the disclosed subject matter under 35 U.S.C. § 120 (2000) (allowing filing as a continuation application if filed before all applications in the chain issue).").

Defendants' proposed construction does not comport with the ordinary meaning of "urging in movement," which is

"pushing" or "pressing forward." Nothing in the claim language indicates that the tail must first be folded or otherwise inserted in an "organized fashion." Defendants derive this limitation from language in the specification describing the "preferred loading sequence," in which "the tail [] is folded into a resulting bulk...and in this folded configuration is urged in movement [] into the compartment." '086 patent, 4:5-7. However, this is not a case in which "the preferred embodiment is described in the specification as the invention itself," such as to allow limitations from the specification to be read into the claim language. See Modine Mfg. Co., 75 F.3d at 1551 (reviewing specification and prosecution history of patent, during which patent seeker argued that narrower "peak heat range" was what was "sought to be covered by the applicant," and concluding that invention was thus limited to hydraulic diameters in the narrower peak heat range). "Urging in movement" is therefore construed to mean "pushing."

#### 7. "blunt"

Plaintiff argues that "blunt" means "not sharp," while defendants construe it to mean "flat-surfaced." Defendants draw support for their construction from the description in the specification that the "projectile...can be shaped

preparatory to being fired along a path of flight [] to the target [] with a blunt or flat end.” ‘086 patent, 2:49-52 (emphasis added). Defendants construe this phrase to define “blunt” to mean “flat.” However, the phrase might also be read to provide a range of adjectives to describe the possible shape of the “end” portion, as being either “blunt” or “flat.” This second reading better comports with the ordinary meaning of “blunt,” which is not “flat,” but rather “not sharp.” The specification also notes that the “blunt-shaped front end” is the shape of the projectile after it is reshaped from “a curvature shape.” ‘086 patent, 4:24-25. Therefore, taking the use of “blunt” in the specification as a guide to the meaning of that term as in the claims, “blunt” is construed to mean “not sharp and not in a curvature shape.” See Phillips, 415 F.3d at 1315.

8. “such that said blunt-ended cylindrical shape is maintained during flight and prior to impact”

Defendants argue that this language in the claim requires that the projectile’s shape is “maintained after firing for at least 20 yards and until impact.” Def. Br. at 13. The numerical limit in defendants’ construction is derived from the explanation in the patent specification of the possible uses for plaintiff’s invention, such as by

police officers managing an unruly crowd, who might “strike [an unruly] individual, typically at eight to twenty yards, with a low lethality munition.” ‘086 patent, 2:30-32 (emphasis added). Defendants argue that plaintiff’s projectile must therefore be capable of maintaining its flight shape for at least 20 yards.

There is nothing, however, in the claim language that refers to the length of the projectile’s flight. In the absence of such limiting language in the claim, the numerical limitation of twenty yards suggested by the specification should not be read into the claim language. See Modine Mfg. Co., 75 F.3d at 1551 (noting that a “claim element that is claimed in general descriptive words, when a numerical range appears in the specification and in other claims, is not limited to the numbers in the specification or the other claims”). Plaintiff’s proposed construction, that the shape is “maintained at least up to the point immediately before impact,” *Plaint. Br.* at “Ex. F,” reflects the ordinary meaning of the claim language.

#### The ‘133 Patent

##### 1. “pliable tubular body”



The parties first dispute the meaning of the language in claims 1 and 7<sup>3</sup> of the '133 patent that describes a "pliable tubular body having a closed front end and a rear edge bounding an opening into a body compartment into which an amount of lead shot is inserted prior to closure of the body compartment." '133 patent, 4:57-60. The plaintiff's proposed construction of the phrase is "a non-rigid structure having a tubular shape and a cavity of unspecific dimensions with an amount of lead shot therein." *Plaint. Br.* at "Ex. G." Defendants' proposed construction is "a stretchable tube shape hollow body having a single inner compartment formed by one closed end opposite one opening formed by a rear edge." *Def. Br.* at 14.

The parties agree that the claims describe a projectile body containing a single cavity or compartment. The parties disagree as to whether "pliable" means "stretchable" or "non-rigid." The ordinary meaning of "pliable" is not "stretchable," but rather "bendable." Therefore, the claim language is properly construed to mean "a bendable tube shape structure having a single compartment that is formed by a closed front end and a rear edge that bounds an

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<sup>3</sup> Claim 7 is identical to Claim 1, except that the word "maintained" is substituted for "augmented." Claims 1 and 7 are the two independent claims in the '133 patent.

opening, through which opening an amount of lead shot is inserted prior to closing the opening.”

## 2. “rear edge”

Defendants’ proposed construction of “rear edge” is “the edge of the tubular sock-like body [tubular body] in the projectile opposite the closed end that, in the unfilled state, forms the opening into which shot is filled.” Def. Op. Br. at 12 (brackets in original). Plaintiff does not dispute defendants’ construction, but merely notes that the “rear edge” should not be construed as being incorporated into the “tail” because the limitation that the tail portion includes “at least the rear edge of the projectile,” ‘133 patent, 5:7-8, 6:15-16, from dependent claims 3 and 9 of the ‘133 patent should not be read to limit the meaning of “rear edge” as used in independent claims 1 and 7. See Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (noting that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim”). As defendants’ construction makes no mention of the relationship between the tail and the rear

edge to which plaintiff objects, defendants' proposed construction is adopted.

### 3. "tail portion"

Defendants' proposed construction of "tail portion" is "the tubular body portion of the projectile extending rearward from a constriction/delineation and including the rear edge through which shot is filled that has been folded into an organized bulk of material having a substantially cylindrical shape narrower than the cylindrical shape of the front end portion." Def. Br. at 17.

Plaintiff agrees that the tail portion has a substantially cylindrical shape and agrees that it "has a smaller cross-sectional dimension than the flattened (i.e. blunt) front portion." Plaint. Br. at "Ex. G." Plaintiff correctly objects, however, to reading the limitation that the "tail portion" includes "at least the rear edge of the projectile" from dependent claims 3 and 9 into independent claims 1 and 7. See Phillips, 415 F.3d at 1315 ("[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.").

The plaintiff also rejects defendants' argument that the tail portion must be folded. Plaintiff intentionally and expressly removed the "forming folds" limitation, contained in the '562 patent, from the '133 patent. Plaintiff is correct that nothing in the claim language indicates that the tail must first be folded, as discussed in Part 6, supra. "Tail portion" is therefore construed to mean "the rear end portion of the projectile extending rearward from the lead shot-filled body compartment having a substantially cylindrical shape narrower than the cylindrical shape of the front end portion."

#### 4. "flight shape"

Defendants argue that "flight shape" in the '133 patent means "the shape the projectile must maintain for at least 20 yards and until impact." Def. Br. at 19. The plaintiff responds that nothing in the patent requires that the flight path be a minimum of twenty yards. Plaintiff notes that the claim should not be limited to a numerical limit disclosed in the specification, as discussed in Part 8, supra. "Flight shape" is properly construed as "the shape of the projectile after it is propelled out of the weapon shell and during the course of its flight."

5. "blunt projectile front end portion"

Defendants contend that "blunt" should be defined in the same way for both the '133 and '086 patents and throughout the '133 patent. Defendants argue that the blunt projectile end must be cylindrically shaped because that patent claim describes the tail portion as being "substantially cylindrically shaped" and narrower than the blunt end, implying by comparison that the blunt end is cylindrical. Defendants' proposed construction of the phrase is "a cylindrical shape with a flat-surfaced front end." Def. Br. at 16.

Plaintiff's proposed construction of "blunt" is different in each of claims 1 and 7. In claim 1, plaintiff proposes that blunt means "flattened (i.e. blunt)." Plaint. Br. at "Ex. G." However, in claim 7, plaintiff proposes that blunt means "non-sharp." Id. As noted in Part 7, supra, the ordinary meaning of "blunt" is "not sharp." Plaintiff contends that "blunt" means "not sharp" in claim 7, but does not explain why the term should be construed differently in claim 1. "Blunt projectile front end portion" is properly construed in both claims 1 and 7 to mean "a cylindrical shape with a front end that is not sharp."

CONCLUSION

Accordingly, the claims of the '086 and '133 patents  
are properly construed as explained above.

Dated: New York, New York  
April 4, 2006

S/\_\_\_\_\_  
MIRIAM GOLDMAN CEDARBAUM  
United States District Judge